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THE 109TH ICR ANNUAL SYMPOSIUM

(4 December 2009)

ORAL PRESENTATIONS

HIRAI, Asako (Molecular Materials Chemistry)
“Control of Crystal Polymorphs of Bacterial Cellulose and Their Resultant Higher Order Structures”

INOUE, Rintaro (Polymer Materials Science)
“Glass Transition of Polymer Thin Film”

TOKUDA, Youmei (Inorganic Photonics Materials)
“Structure Engineering and Material Function Controlling of Organic-inorganic Hybrid Materials”

SOUDA, Hikaru (Particle Beam Science)
“Transverse Laser Cooling of $^{24}\text{Mg}^+$ Beam by Resonant Coupling”

TAKIGAWA, Ichigaku (Pathway Engineering)
“Metabolic Pathway Estimation Using Gene Expression”

M. Lutfi Firdaus, et al. (Trace Elemental Tomography)
“Sectional Distribution of Zr, Hf, Nb, Ta, Mo and W in the Southern and South Pacific Ocean”

KURIHARA, Tatsuo (Molecular Microbial Science)
“How Microbes Survive in the Antarctic?”




– ICR Award for Young Scientists –
TOKITA, Shigeki (Laser Matter Interaction Science)
“Single-shot Ultrafast Electron Diffraction with a Laser-accelerated Sub-MeV Electron Pulse”

YAMADA, Yasuhiro (Photonic Elements Science)
“Temperature Dependence of Photoluminescence Spectra of Nondoped and Electron-Doped SrTiO_3 : Crossover from Auger Recombination to Single-Carrier Trapping”


– ICR Award for Graduate Students –
DELMO, Michael Picazo (Nanospintronics)
“Large Positive Magnetoresistive Effect in Silicon Induced by the Space-charge Effect”


YAMAZOE, Sayumi (Chemical Biology)
“A Dumbbell-Shaped Small Molecule that Promotes Cell Adhesion and Growth”

POSTER PRESENTATIONS


 : Laboratory Whole Presentation
 : Laboratory Topic
 : General Presentation


— Organoelement Chemistry —

 “Synthesis and Properties of Novel Organic Compounds Containing Heavy Elements”


 MIEDA, Eiko; SASAMORI, Takahiro; TOKITOH, Norihiro
“Studies on the Synthesis of 1,2-Diarylsilyne Bearing Bulky Substituents”


— Structural Organic Chemistry —

 MORINAKA, Yuta; MURATA, Michihisa; KUROTOBI, Kei; MURATA, Yasujiro
“Chemical Transformation of Cage-Opened Fullerene by Grignard Reagents”


 KUROTOBI, Kei; YASUI, Hidefumi; MURATA, Yasujiro
“Design and Synthesis of New Fullerene Derivatives with Extended π -System”


— Synthetic Organic Chemistry —

 YAMAMOTO, Junya; KITAMURA, Yuki; HASHIMOTO, Ayano; FURUTA, Takumi; MASU, Hyuma; AZUMAYA, Isao; KAN, Toshiyuki; KAWABATA, Takeo
“Efficient Synthesis of Axially Chiral Amino Acid and Alcohol through Pd-catalyzed Domino Coupling Reaction”


 SUE, Daisuke; KAWABATA, Takeo; TSUBAKI, Kazunori
“Synthesis of the Spirolactone Compounds via a Novel Framework Rearrangement Reaction”

— Chemistry of Polymer Materials —

 SHINJO, Ayaka; NAGASAWA, Kouji; GOTO, Atsushi; TSUJII, Yoshinobu; FUKUDA, Takeshi
“Living Radical Polymerization with Carbon Catalysts—Reversible Chain Transfer Catalyzed Polymerization”

 KIM, Jeongsik; GOTO, Atsushi; HIRAI, Asako; TSUJII, Yoshinobu; FUKUDA, Takeshi
“Surface-initiated Living Radical Polymerization from Cellulose Nanofiber”

— Polymer Controlled Synthesis —

 WATANABE, Yoshiki; IWAMOTO, Takahiro; YAMAGO, Shigeru
“Synthesis of Cycloparaphenylenes from Bis-Aryl Platinum Macrocyclic Complexes”

GE YAMADA, Hiroto; KAYAHARA, Eiichi; YAMAGO, Shigeru
“Development and Application of Selective Transmetalation
of Heavier Heteroatom Compounds”

GE UEKI, Kazuya; YAMAGO, Shigeru
“Synthesis of Oligo(Aromatic Ketone)s by Iterative Friedel-
Crafts Reaction”

— Inorganic Photonics Materials —

LT SHINAGAWA, Masashi; TOKUDA, Youmei; TAKAHASHI,
Masahide; YOKO, Toshinobu
“Recent Research Topics in YOKO Laboratory”

— Nanospintronics —

GE CHIDA, Kensaku; HASHISAKA, Masayuki; YAMAUCHI,
Yoshiaki; NAKAMURA, Shuji; MACHIDA, Tomoki;
KOBAYASHI, Kensuke; ONO, Teruo
“Non-equilibrium Noise in the Regime of the Quantum Hall
Effect Breakdown”

GE YAMADA, Gen; KOYAMA, Tomohiro; UEDA, Kouhei;
TANIGAWA, Hironobu; FUKAMI, Shunsuke; SUZUKI,
Tetsuhiro; OHSHIMA, Norikazu; ISHIWATA, Nobuyuki;
CHIBA, Daichi; NAKATANI, Yoshinobu; KOBAYASHI,
Kensuke; ONO, Teruo
“Current-induced Motion of Multi Domain Walls in a Co/Ni
Wire with Perpendicular Magnetic Anisotropy”

GE TANABE, Kenji; CHIBA, Daichi; KASAI, Shinya;
KOBAYASHI, Kensuke; ONO, Teruo
“Detection of Spin Motive Force Induced by Magnetic
Vortex Dynamics”

— Biofunctional Design-Chemistry —

LW “Research Activity at Biofunctional Design Chemistry”

GE YU, Hao-Hsin; NAKASE, Ikuhiko; SILVIA, Pujals; IMANISHI,
Miki; FUTAKI, Shiroh
“Application of Expressed Protein Ligation to the Preparation
of Fusion Proteins with Arginine-rich Cell Penetrating
Peptides”

— Chemistry of Molecular Biocatalysts —

LW “Research Activities in Chemistry of Molecular Biocatalysts”

— Molecular Biology —

LW “Recent Activities of Laboratory of Molecular Biology”

— Chemical Biology —

LW “Chemicalbiology”

GE SATO, Shinichi; MURATA, Asako; ORIHARA, Tsubasa;
SUENAGA, Kiyotake; KIGOSHI, Hideo; UESUGI, Motonari
“Isolating and Identifying Protein Targets of Marine Natural
Product Aurilide”

— Molecular Materials Chemistry —

LT SUZUKI, Furitsu; YAMADA, Tomonori; SATO, Tohru;
TANAKA, Kazuyoshi; KAJI, Hironori
“Charge Transfer Integrals and Charge Transport Paths in
Bipolar-transport and Hole-transport Materials for Organic
Light-emitting Diodes”

GE TAKAMI, Kosuke; KUSAKA, Yasunari; KUGA, Takako; KAJI,
Hironori
“Two-Dimensional Double-Quantum ¹⁵N Solid-State NMR
Characterization of Tris(8-hydroxyquinoline) Aluminum(III)
(Alq₃)”

GE KAWAGUCHI, Hisafumi; YAMADA, Tomonori; KAJI, Hironori
“Analysis of Mobility and Transport Process in an Organic
Charge Transport Material by Monte Carlo Calculation”

— Hydrospheric Environment Analytical Chemistry —

LT UMETANI, Shigeo; WATANABE, Kazuya; SOHRIN, Yoshiki
“Ion Imprinted Organic-inorganic Hybrid Adsorbent for the
Separation of Metal Ions”

— Solution and Interface Chemistry —

LT YASAKA, Yoshiro; WAKAI Chihiro; NAKAHARA, Masaru;
MATUBAYASHI, Nobuyuki
“Computational Study on the Slow Dynamics in Ionic Liquids”

GE KARINO, Yasuhito
“Free-energy Analysis of Solvent Effect on Structural Stability
of Protein”

— Molecular Microbial Science —

LT HIDESE, Ryota; MIHARA, Hisaaki; KURIHARA, Tatsuo;
ESAKI, Nobuyoshi
“Genome-wide Screening of the Essential Genes for Dihy-
dropyrimidine Dehydrogenase Activity”

LT SATO, Sho; KURIHARA, Tatsuo; OKAZAKI, Masaaki;
KAWAMOTO, Jun; OZAWA, Fumiyuki; ESAKI, Nobuyoshi
“Synthesis and Evaluation of Molecular Probe for Analyzing
the Function of Phospholipids Containing Eicosapentaenoic
Acid”

— Polymer Materials Science —

LW “Research Topics of Polymer Material Science Laboratory”

GE ZHAO, Yunfeng; MATSUBA, Go; NISHIDA, Koji; KANAYA,
Toshiji
“Study of Meso Structures in Isotactic Polystyrene Induced
by Shear Flow”

GE MORITA, Hideyuki; TANAKA, Kentaro; NISHIDA, Koji;
MATSUBA, Go; KANAYA, Toshiji
“Gelation and Phase Separation Behavior of Methylcellulose
Aqueous Solution with Added Salt”

— Molecular Rheology —

- GE KATAKURA, Shiro; CHEN, Quan; MATSUMIYA, Yumi; WATANABE, Hiroshi
“Dynamics of Disorderd PtBS-PI-PtBS Triblock Copolymer”
- GE HIRAMOTO, Keisuke; CHEN, Quan; MATSUMIYA, Yumi; WATANABE, Hiroshi
“Dynamics of Disorderd Polyisoprene/Poly(4-tert-butylstyrene) Blend”
- GE CHEN, Quan; MATSUMIYA, Yumi; WATANABE, Hiroshi
“Dynamics of Disorderd Diblock Copolymer: Poly(isoprene-b-4-tert-butyl styrene)”

— Molecular Aggregation Analysis —

- LT KAWAUCHI, Tatsuro; TSUTSUMI, Jun'ya; YOSHIDA, Hiroyuki; SATO, Naoki
“Crystal Structure of Dimethylamino-substituted Pyridinium 1,3-dihydro-1,3-dioxo-2H-inden-2-ylide (PI)”
- GE ASAMI, Koji
“Dielectric Spectroscopy of Biological Cells and Tissues”

— Supramolecular Biology —

- LW “Review of Current Research at Laboratory of Supramolecular Biology”
- GE YAMAMOTO, Masatoshi; KATO, Utako; UMEDA, Masato
“Phospholipid Flip-flop in Organelles and its Cellular Functions”

— Particle Beam Science —

- LW “Outline of Particle Beam Science Research Laboratory”
- GE YAMADA, Masako
“VCN-focusing-SANS with Modulating Magnetic Lens for Pulsed White Neutron Beams”

— Laser Matter Interaction Science —

- LW “Advances in Laser Matter Interaction Science”
- GE MIYASAKA, Yasuhiro; HASHIDA, Masaki; OKAMURO, Kiminori; TOKITA, Shigeki; SAKABE, Shuji
“Mechanism of Femtosecond Laser Nano Ablation for Metals ~Dependence of Ion Emission on Laser Polarization~”
- GE JAHANGIRI, Fazel; NAGASHIMA, Takeshi; HASHIDA, Masaki; TOKITA, Shigeki; HANGYO, Masanori; SAKABE, Shuji
“THz Radiation from Argon Clusters Irradiated by Intense Femtosecond Laser Pulses”
- GE OKAMURO, Kiminori; HASHIDA, Masaki; MIYASAKA, Yasuhiro; TOKITA, Shigeki; SAKABE, Shuji
“The Investigation of Mechanism of Periodic Nanostructure on Metal after Femtosecond Pulse Laser Irradiation”

- GE HIROKANE, Mayu; TOKITA, Shigeki; HASHIDA, Masaki; SAKABE, Shuji
“Development of High Power 3μm OH Absorption Band Tunable Fiber Laser”
- GE NISHOJI, Toshihiko; TOKITA, Shigeki; TAGUCHI, Toshihiro; INOUE, Shunsuke; OTANI, Kazuto; HASHIDA, Masaki; SAKABE, Shuji
“Measurement of the Angular Distributions of 100-keV-1-MeV Electron Emission from Intense Shortpulse Laserproduced Plasmas”
- GE INOUE, Shunsuke; TOKITA, Shigeki; NISHOJI, Toshihiko; MASUNO, Shinichiro; OTANI, Kazuto; HASHIDA, Masaki; SAKABE, Shuji
“Measurement of Spacial Distributions of Electron Sources in the Laser-plasma Interacted Region”

— Electron Microscopy and Crystal Chemistry—

- LW “Recent Research Topics of Division of Electron Microscopy and Crystal Chemistry”
- GE SHINODA, Yasuhiro; KURATA, Hiroki; SHIRAKI, Hiroshi; SHIMAKAWA, Yuichi; ISODA, Seiji
“EELS Study of CaCu₃B₄O₁₂ (B=Ti, Ge, Sn)”

— Structural Molecular Biology —

- LT HATA, Yasuo; KOBAYASHI, Kazutaka; YAMAUCHI, Takae; FUJII, Tomomi
“Structural Basis of Enzymes Involved in Catabolic Pathway of Resorcinol”

— Organic Main Group Chemistry —

- LW “Current Research Activities in Organic Main Group Chemistry Laboratory”
- GE HASHIMOTO, Toru; HATAKEYAMA, Takuji; NAKAMURA, Masaharu
“Iron-Catalyzed Suzuki-Miyaura Coupling Reaction”
- GE SEIKE, Hirofumi; ISHIZUKA, Kentaro; ONITSUKA, Satoaki; HATAKEYAMA, Takuji; INANAGA, Junji; NAKAMURA, Masaharu
“Nickel-Catalyzed Alkenylative Cross-Coupling Reaction of Alkyl Sulfides”
- GE HASHIMOTO, Sigma; HATAKEYAMA, Takuji; NAKAMURA, Masaharu
“Synthesis of Novel Hetero-π-conjugated Molecular Bowls”
- GE SASANO, Daisuke; SEIKE, Hirofumi; FUKUI, Sadayuki; OGATA, Kazuki; TAKAYA, Hikaru; NAKAMURA, Masaharu
“Transition-Metal-Bound Peptide: Synthesis, Structure, and Function”

— Advanced Solid State Chemistry —

- LW “Activity of Solid State Chemistry Group”

- GE NAKAMURA, Yoshitaka; KAWAI, Masanori; AZUMA, Masaki; SHIMAKAWA, Yuichi
“Preparation and Characterization of (1-x)BiFeO₃-xBiCoO₃ Prepared by Chemical Solution Deposition”

— **Organotransition Metal Chemistry** —

- LW “Activity Report: Organotransition Metal Chemistry Laboratory”
- GE WAKIOKA, Masayuki; NAKAJIMA, Yumiko; OZAWA, Fumiyuki
“Mechanism of P-C Reductive Elimination from Styrylpalladium (II) Phosphine Complexes”

— **Photonic Elements Science** —

- LW “Research Topics in Photonic Elements Science”

— **Bioknowledge Systems** —

- LW “KEGG Database and GenomeNet Pharmaceutical Products Database”

— **Biological Information Networks** —

- GE POOLSAP, Unyanee
“Dynamic Programming Algorithms for RNA Structure Prediction with Binding Sites”

— **Pathway Engineering** —

- LT KAYANO, Mitsunori
“Genome-wide Three-way Gene Interactions from Transcript and Genotype Data”

— **Research Center for Low Temperature and Materials Sciences** —

- LT TERASHIMA, Takahito; KASAHARA, Shigeru; SHISHIDO, Hiroaki; YAMASHITA, Minoru; SHIBAUCHI, Takasada; MATSUDA, Yuji
“Preparation and Properties of Iron-pnictides Superconductors”